

REMARKS

In reply to the Office Action of March 3, 2006, Applicant submits the following remarks. Claims 1, 9, and 17 have been amended. Support for the added limitations can be found at least in paragraph 0031. Claims 21-32 have been added. Support for the new claims can at least be found in paragraphs page 2, lines 24-25, page 4, lines 23-28, page 6, line 22-page 7, line 5, page 7, lines 22-28, page 11, lines 12-14 (the three lines after table 3) and table 2. Applicant respectfully requests entry of the new claims. Claim 19 has been canceled. Applicant respectfully requests reconsideration in view of the foregoing amendments and these remarks.

Section 102 Rejections

Claims 1, 4, 5, 9, 11, 13 and 17-20 were rejected as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 4,034,862 ("Bahri"). The applicant respectfully disagrees in light of the amendments to claims 1, 9 and 17.

Amended claim 1 is directed to a system for processing materials in a waste stream. The system includes a metal reprocessing apparatus.

Bahri describes a method of separating thermoplastic materials, e.g., films, from a moist mixture of paper and plastics where the waste products are from domestic sources (col. 1, lines 5-16). Waste enters an air classifier 5 and is separated into a heavy fraction 6, comprising metals, glass, stone, and food scraps, and a light fraction, containing paper and plastics (FIG. 1, col. 2, lines 33-45). The light fraction is then further processed (col. 2, lines 45-58).

Bahri is primarily focused on separating paper from a mixture of paper and plastics (col. 1, lines 24-25). Bahri removes a heavy fraction 6 from waste, where the heavy fraction 6 includes metals and other non-desirable materials. Bahri is silent as to what is then done with the heavy fraction 6. Because applicant's amended claim 1 requires a metal reprocessing apparatus for reprocessing metal materials derived from the heavy stream, which is not described by Bahri, applicant submits that claim 1 is not anticipated by Bahri. Claims 4-5 and 13 depend from claim 1 and are similarly not anticipated by Bahri.

Amended claim 9 requires a step of operating a system to process a plastic-rich feed mixture to produce at least three product streams, the product streams including a coarse heavy stream, a ground plastic-rich product stream, and at least one ground light material stream, wherein operating the system comprises feeding the plastic-rich feed mixture into an air separator to separate metal materials from the plastic-rich feed mixture and reprocessing the metal materials from the coarse heavy stream.

Bahri describes a step of creating a heavy fraction 6. However, Bahri does not then discuss any step of reprocessing metal materials from the heavy fraction. For at least this reason, applicant submits that claim 9 as amended is not anticipated by Bahri. Claim 11 depends from claim 9 and are similarly not anticipated by Bahri.

Amended claim 17 is directed to a method for processing a mixture, the method comprising moving air in an air separation device, adding a mixture of plastics and metals to the air separation device, wherein the moving air entrains light materials in the mixture and allows heavier components to fall within the separation device, collecting heavier components that have fallen within the separation device, collecting the light materials separately from the heavier components and sending the light materials to a grinder.

Again, for reasons similar to those provided above with respect to claim 9, applicant submits that claim 17 is not anticipated by Bahri, because Bahri does not describe a step of reprocessing metals from heavier components that have fallen within an air separation device and been collected. Claims 18-20 depend from claim 17 and are similarly not anticipated by Bahri.

Claims 17-20 were rejected as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,788,167 ("Chapman"). The applicant respectfully disagrees in light of the amendments to claim 17.

Chapman is directed to separating precious metals from printed wiring assemblies or boards (col. 3, lines 24-47). Chapman describes crushing printed wiring assemblies or boards and sending the crushed pieces to a cyclone air separator 314, 315 (FIGS. 2 and 3, col. 6, line 60-col. 7, line 51). The heavy particles fall and the dust particles are sent to a dust collector 322. The heavy particles are then sent to a fluidized bed of air, where light materials bounce down an inclined vibrating deck and heavier material travels up the inclined deck (col. 7, lines 52-65).

The metals end up at the top of the deck and the non-metallic materials end up at the bottom of the deck (col. 7, line 65-col. 8, line 3).

Chapman describes two methods of separating pieces of printed wiring assemblies or boards. The first method uses a cyclone air separator. The dust that is removed from this step is sent on to a dust bin and no further processing is performed on the dust. Thus, this process does not perform the step of sending light material to a grinder. The particles from the first step that do not go to the dust bin go on to a fluidized bed of air for separating metals from non-metals. The fluidized bed of air bounces the heavier particles up to the top of a deck. This step of the process does not use air to entrain light material and allow heavier materials to fall within the separation device. Rather, the heavier materials are bounced up the to the top of a deck. For at least these reasons, applicant submits that claim 17 as amended is not anticipated by Chapman.

Applicant respectfully requests that the anticipation rejections be withdrawn.

Section 103 Rejections

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bahri. The Examiner states that “the use of fans or suction means to move material within a system is well known in the art and of no patentable merit” (Page 2 or Final Office Action).

Claim 6 depends from claim 1 and requires all of the limitations of claim 1. Applicant submits that Bahri does not suggest a metal reprocessing apparatus for reprocessing metal materials from the heavy stream. For at least this reason, applicant submits that no *prima facie* case of obviousness of claim 6 has been made in light of the amended claim 1.

Claim 10, 12 and 14-16 were rejected as being unpatentable over Bahri in view of U.S. Patent No. 5,842,652 (“Warsing”).

Warsing describes a truck for collecting and separating recyclable materials (Fig. 1, col. 7, lines 56-63). A container of waste is collected from the curbside and a worker sorts the waste into types of materials, such as glass and plastics (col. 7, line 63-col. 8, line 3). Metals cans can be crushed or flattened into bins. Additionally, metals cans can be separated according to whether they are ferrous or aluminum, either magnetically or manually at a recycling center (col. 5, lines 15-47).

Claims 10, 12 and 14-16 all depend from claim 9 and necessarily include the limitations of claim 9.

Both Bahri and Warsing fail to suggest or disclose reprocessing metals from a coarse heavy stream. Warsing describes sorting material and crushing or flattening metal cans, where cans of different metal types can be separated from one another. However, Warsing does not suggest reprocessing the metals. For at least this reason, applicant submits that no *prima facie* case of obviousness has been made with respect to claims 10, 12 and 14-16 after amendment of claim 9.

Applicant respectfully requests withdrawal of the obviousness rejections.

New Claim

Claims 21-23 depend from claim 17 and are not anticipated nor obvious over the cited references for at least the reasons provided above. Claims 24-28 depend from claim 1 and are not anticipated nor obvious over the cited references for at least the reasons provided above. Claim 29 is directed to a method of using an air-leg separator. Applicant notes that Bahri generally describes using air separators, but does not specify use of an air-leg separator. Chapman describes separators, such as cyclone air separators, air classifiers, air stratifiers, centrifugal air classifiers, venturi separators, trickle vane separators, and rising current density separators, but does not describe an air-leg separator. Warsing describes using air knives to separate materials, but does not suggest using a air-leg separator. Claims 30-32 depend from claim 29 and are contain subject matter that is similarly not described by Bahri, Chapman or Warsing.

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The excess claims fees in the amount of \$275.00 and the one-month extension of time fee in the amount of \$60.00 are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other required charges or credits to deposit account 06-1050.

Respectfully submitted,

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